LISTING OF CLAIMS

1. (Cancelled)

2. (Previously Presented) The composition according to claim 19, wherein said complex carbohydrate is a polysaccharide.

3. (Previously Presented) The composition according to claim 19, wherein said complex carbohydrate is an oligosaccharide.

4. (Cancelled)

5. (Cancelled)

6. (Previously Presented) The composition according to claim 2, wherein said polysaccharides are selected from the group consisting of a glycosaminoglycan and a mannan.

7. (Previously Presented) The composition according to claim 6, wherein said glycosaminoglycan is selected from the group consisting of hyaluronic acid, heparin, heparin sulfate, low molecular weight heparin, dermatan sulfate, chondroitin sulfate, polysulfated glycosaminoglycan, keratan sulfate, salts thereof and derivatives thereof.

8. (Previously Presented) The composition according to claim 2, wherein said polysaccharide is a mannan obtained from an extract of the Aloe Vera plant.

9. (Previously Presented) The composition according to claim 3, herein said oligosaccharide is a sialylated sugar.

10. (Cancelled)

11. (Previously Presented) The composition according to claim 19, wherein said complex carbohydrates comprise a mixture of molecular weight ranges.

12. (Currently Amended) The composition according to claim 11, ~~wherein said complex carbohydrates comprise a mixture of a high molecular weight complex carbohydrate and a low molecular weight complex carbohydrate~~ wherein said molecular weight ranges comprise at least one fraction from 1,000 to less than 50,000 daltons, from 100,000 to 300,000 daltons, or greater than 750,000 daltons.

13. (Currently Amended) The composition according to claim 11, wherein the ~~high molecular weight and low molecular weight complex carbohydrate~~ complex carbohydrates differ by molecular weight and chemical structure.

14. (Currently Amended) The composition according to claim 11, wherein said ~~high molecular weight and low molecular weight~~ complex carbohydrates range from two different size polymers of the same complex carbohydrates.

15 - 18. (Cancelled)

19. (Currently Amended) A composition which comprises:

at least one orally ingestable or mucosally absorbable complex carbohydrate selected from the group consisting of oligosaccharides, sialylated oligosaccharides, polysaccharides, and glycosaminoglycans, wherein said complex carbohydrates are present in an amount of 0.0001 mg to 100 mg, and wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, with the proviso that said composition does not contain an essential oil as an active ingredient, and

a carrier selected from the group consisting of a drink, a

drink mix, a food, a candy, a mouthwash, a toothpaste, a gargle, a vaporizer liquid, a gum, a lozenge, an ingestable gel, an ingestable foam, an ingestable capsule, a tablet, an ingestable tablet, an ingestable dissolvable tablet, a suppository, and an ingestable nutritional supplement, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

20 - 21. (Cancelled)

22. (Currently Amended) A composition which comprises, as an active ingredient, a pharmacologically effective amount of at least one orally ingestable or mucosally absorbable complex carbohydrate selected from the group consisting of a mixture of ~~high and low~~ molecular weight ranges of hyaluronic acid, wherein said molecular weight ranges comprise at least one fraction from 1,000 to less than 50,000 daltons, from 100,000 to 300,000 daltons, or greater than 750,000 daltons, and wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, and

a carrier selected from the group consisting of a drink, a drink mix, a food, a candy, a mouthwash, a toothpaste, a gargle,

a vaporizer liquid, a gum, a lozenge, an ingestable gel, an ingestable foam, an ingestable capsule, a tablet, an ingestable tablet, an ingestable dissolvable tablet, a suppository, and an ingestable nutritional supplement~~, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet~~.

23. (Currently Amended) A composition which comprises as an active ingredient a pharmacologically effective amount of at least one orally ingestable or mucosally absorbable ~~low purity~~ complex carbohydrate selected from the group consisting of oligosaccharides, sialylated oligosaccharides, polysaccharides and glycosaminoglycans, wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, and

a carrier selected from the group consisting of a drink, a drink mix, a food, a candy, a mouthwash, a toothpaste, a gargle, a vaporizer liquid, a gum, a lozenge, an ingestable gel, an ingestable foam, an ingestable capsule, a tablet, an ingestable tablet, an ingestable dissolvable tablet, a suppository, and an ingestable nutritional supplement, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

24. (Withdrawn - Previously Presented) A method of treatment of inflammation, pain or itching which comprises orally or mucosally administering to a mammal the composition of claim 19.

25. (Withdrawn - Previously Presented) The method of claim 24, wherein said application is made orally.

26. (Withdrawn - Original) The method of claim 24, wherein said oral or mucosal application form is selected from the group consisting of a liquid, an emulsion, a suspension, a cream, an ointment, a gel, a foam, a solid, a powder and a gum.

27. (Withdrawn - Original) The method of claim 24, wherein said inflammation, pain or itching results from arthritis, bursitis, athletic injuries, tendonitis, trauma, gastritis, colitis, esophagitis, bronchitis, sore throat, tonsilitis, tendonitis, fibromyalgia, TMJ, dental pain, bruising, poor circulation, muscle cramps, tired feet, allergies, poison ivy, insect bites/stings, asthma, anaphylaxis, surgery, childbirth, sunburn, burns, edema related to diabetes, decubitus ulcers, superficial cuts and scrapes, open wounds, dry skin, psoriasis, Attention Deficit Hyperactivity Disorder (ADHD), plaque formation associated with heart disease and

stroke, increased degradation of spinal nerves post spinal cord injury, adhesion formation post surgery, scar formation post surgery, wound healing, ganglion formation, Alzheimer's disease, HIV, cancer, wrinkles, and hair loss.

28 - 29. (Cancelled)

30. (Withdrawn - Currently Amended) A method of inhibiting the Adhesion cascade by orally or mucosally administering to a mammal the composition of claim 19 ~~19,~~.

31. (Withdrawn - Previously Presented) A method for inhibiting tumor formation and tumor metastasis which comprises orally or mucosally administering to a mammal the composition of claim 19.

32. (Withdrawn - Previously Presented ) A method for preventing or treating inflammation, pain, tumor development and metastasis or allergy-related diseases and conditions which comprises orally or mucosally administering to a mammal the composition of claim 19.

33. (Withdrawn - Original) A method for preventing or treating inflammation, pain, tumor development and metastasis or allergy-related diseases and conditions which comprises orally administering to a mammal the composition of claim 19.

34. (Withdrawn - Original) A method for preventing or treating inflammation, pain, tumor development and metastasis or allergy-related diseases and conditions which comprises mucosally administering to a mammal the composition of claim 19.

35. (Withdrawn - Original) The method of Claims 33 or 34 wherein the inflammation, pain, tumor development and metastasis or allergy-related diseases and conditions are selected from the group consisting of arthritis, bursitis, athletic injuries, tendonitis, trauma, anaphylaxis, surgery, childbirth, gastritis, colitis, esophagitis, bronchitis, sore throat, tonsilitis, tendonitis, fibromyalgia, TMJ, dental pain, bruising, poor circulation, muscle cramps, tired feet, allergies, poison ivy, insect bites/stings, asthma, sunburn, burns, edema related to diabetes, decubitus ulcers, superficial cuts and scrapes, open wounds, dry skin, psoriasis, Attention Deficit Hyperactivity Disorder (ADHD), plaque formation associated with heart disease and stroke, increased degradation of spinal nerves post spinal cord injury, adhesion formation post surgery, scar formation

post surgery, wound healing, ganglion formation, Alzheimer's disease, HIV, cancer, wrinkles, and hair loss.

36. (Previously Presented) The composition according to claim 19, wherein said at least one complex carbohydrate has a molecular weight in the range of from 1,000 to less than 50,000 daltons.

37. (Previously Presented) The composition according to claim 19, wherein said at least one complex carbohydrate has a molecular weight in the range of from 100,000 to 300,000 daltons.

38. (Previously Presented) The composition according to claim 19, wherein said at least one complex carbohydrate has a molecular weight in the range of greater than 1,000,000 daltons.

39 - 40. (Cancelled)

41. (Previously Presented) The composition according to claim 19, wherein the form is selected from the group consisting of a liquid, an emulsion, a suspension, a solution, a cream, a gel, a foam, a solid, a powder, a spray, a gum and an ointment.

42. (Previously Presented) The composition according to claim 23, wherein the form is selected from the group consisting of a liquid, a gel, a solution, a suspension, an emulsion, an ointment, a cream, a solid, a powder, a gum and a spray.

43 - 45. (Cancelled)

46. (Previously Presented) The composition of claim 19, wherein said composition is a pain-relieving composition.

47. (Previously Presented) The composition of claim 19, wherein said composition is an orally delivered pain-relieving composition.

48. (Previously Presented) The composition of claim 19, wherein said composition is a mucosally delivered pain-relieving composition.

49. (Previously Presented) The composition of claim 19, wherein said composition is a tumor preventative or treatment composition.

50. (Previously Presented) The composition of claim 23, wherein the low purity complex carbohydrate contains up to 5% by weight contaminants.

51. (Previously Presented) The composition of claim 23, wherein the low purity complex carbohydrate contains less than 98% by weight hyaluronic acid.

52. (Withdrawn - Previously Presented) A method of treatment of inflammation, pain or allergy-related diseases and conditions which comprises mucosally applying to a mammal the composition of claim 19.

53. (Previously Presented) The composition of claim 19, wherein the active ingredient is present in an amount of at least 0.01% wt/vol.

54. (Previously Presented) The composition of claim 19, wherein the active ingredient is present in an amount of at least 1% wt/vol.

55 - 58. (Cancelled)

59. (Previously Presented) The composition of claim 23, wherein said at least one complex carbohydrate is a low or cosmetic or food grade complex carbohydrate having a molecular weight in the range of from 1,000 to less than 50,000, from 100,000 to 500,000, or greater than 1,000,000.

60. (Previously Presented) The composition of claim 19, wherein the polysaccharides are selected from the group consisting of mannans and branched polysaccharides.

61 - 62. (Cancelled)

63. (Withdrawn - Original) A method of preventing and treating diseases and conditions associated with the adhesion, metastatic or coronary cascades or are related to allergies, comprising orally or mucosally applying complex carbohydrates as the sole active ingredient.

64. (Withdrawn-Currently Amended) The ~~methods~~ method of claim 63, wherein the complex carbohydrates are administered as repeated low doses.

65. (Withdrawn-Original) The method of claim 64, wherein said repeated low doses are between 0.0001 mg and 100 mg of said sole active ingredient.

66. (Previously Presented) The compositions according to claims 41 or 42, wherein the form of the composition is selected from the group consisting of drinks, drink mixes, foods, supplements, mouthwashes, toothpaste, gargle, throat spray, vaporizers, chewing gum, throat lozenges, treats, candy, capsules, tablets, dissolvable gum and suppositories.

67. (Withdrawn-Original) The method of claims 63 or 64 wherein the diseases and conditions are selected from the group consisting of arthritis, gastritis, colitis, esophagitis, bronchitis, sore throat, tonsilitis, tendonitis, fibromyalgia, sunburn, heat burns, temporomandibular joint (TMJ) condition, dental pain, gingivitis, post surgical pain, itching associated with allergies and hypersensitivity, poison ivy, asthma, anaphylaxis, post surgical pain, childbirth, Attention Deficit Hyperactivity Disorder (ADHD), plaque formation associated with heart disease and stroke, increased degradation of spinal nerves post spinal cord injury, adhesion formation post surgery, scar formation post surgery, wound healing, decubutis ulcers, ganglion formation, Alzheimer's disease, HIV, cancer, Diabetes,

skin problems such as acne, psoriasis, wrinkles, and hair loss.

68. (Cancelled)

69. (Previously Presented) The composition according to claim 19, wherein the complex carbohydrate is a hyaluronic acid or salt or derivative thereof.

70. (Currently Amended) An orally ingested or mucosally absorbed pharmaceutical composition selected from the group consisting of a drink, a drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable dissolvable tablet, suppository, and ingestable nutritional supplement, which comprises as an active ingredient a pharmacologically effective amount of at least one complex carbohydrate selected from the group consisting of oligosaccharides, sialylated oligosaccharides, polysaccharides, and glycosaminoglycans, wherein said at least one complex carbohydrate comprises at least one fraction having a molecular weight range from 1,000 to less than 50,000 daltons, from 100,000 to 300,000 daltons or greater than 750,000 daltons, wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause

reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, with the proviso that said composition does not contain an essential oil as an active ingredient, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

71. (Cancelled)

72. (Previously Presented) The composition of claim 23, wherein said low purity complex carbohydrate contains up to about 5% impurities, and will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals.

73. (Currently Amended) An orally ingested or mucosally-absorbed pharmaceutical composition selected from the group consisting of drink, drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable dissolvable tablet, suppository, and ingestable nutritional supplement, which comprises:

an effective amount of at least one complex carbohydrate selected from the group consisting of oligosaccharides,

sialylated oligosaccharides, polysaccharides, and glycosaminoglycans for treating inflammation, wherein said at least one complex carbohydrate comprises at least one fraction having a molecular weight range from 1,000 to less than 50,000 daltons, from 100,000 to 300,000 daltons or greater than 750,000 daltons, and wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, with the proviso that said composition does not contain an essential oil as an active ingredient,

wherein said orally ingested or mucosally-absorbed pharmaceutical composition is selected from the group consisting of drink, drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable dissolvable tablet, suppository, and ingestable nutritional supplement, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

74. (Previously Presented) Drink comprising the composition of claim 73.

75. (Previously Presented) Drink mix comprising the composition of claim 73.

76. (Previously Presented) Food comprising the composition of claim 73.

77. (Previously Presented) Candy comprising the composition of claim 73.

78. (Previously Presented) Mouthwash comprising the composition of claim 73.

79. (Previously Presented) Toothpaste comprising the composition of claim 73.

80. (Previously Presented) Gargle comprising the composition of claim 73.

81. (Previously Presented) Vaporizer comprising the composition of claim 73.

82. (Previously Presented) Gum comprising the composition of claim 73.

83. (Previously Presented) Lozenge comprising the composition of claim 73.

84. (Previously Presented) Ingestable gel comprising the composition of claim 73.

85. (Previously Presented) Ingestable foam comprising the composition of claim 73.

86. (Previously Presented) Ingestable capsule comprising the composition of claim 73.

87. (Previously Presented) Tablet comprising the composition of claim 73.

88. (Previously Presented) Ingestable tablet comprising the composition of claim 73.

89. (Previously Presented) Ingestable dissolvable tablet comprising the composition of claim 73.

90. (Previously Presented) Suppository comprising the composition of claim 73.

91. (Previously Presented) Ingestable nutritional supplement comprising the composition of claim 73.

92. (Currently Amended) An orally ingested or mucosally absorbed pharmaceutical composition selected from the group consisting of drink, drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable dissolvable tablet, suppository, and ingestable nutritional supplement, which comprises, as an active ingredient, a pharmacologically effective amount of at least one complex carbohydrate selected from the group consisting of a mixture of ~~high and low~~ molecular weight ranges of hyaluronic acid, wherein said molecular weight ranges comprise at least one fraction from 1,000 to less than 50,000 daltons, from 100,000 to 300,000 daltons or greater than 750,000 daltons, and wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, with the proviso that said composition does not contain an essential oil as an active ingredient,

wherein said orally or mucosally-administered pharmaceutical composition is selected from the group consisting of drink, drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable

dissolvable tablet, suppository, and ingestable nutritional supplement, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

93. (Previously Presented) The composition of claim 92, wherein the hyaluronic acid is a low purity hyaluronic acid in a total concentration of between 0.5% and 3.0% wt/vol.

94. (Currently Amended) An orally ingested or mucosally-absorbed pharmaceutical composition selected from the group consisting of drink, drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable dissolvable tablet, suppository, and ingestable nutritional supplement, which comprises as an active ingredient a pharmacologically effective amount of at least one complex carbohydrate selected from the group consisting of oligosaccharides, sialylated oligosaccharides, polysaccharides and glycosaminoglycans, wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, with the proviso that said composition does not contain an essential

oil as an active ingredient,

wherein said orally ingested or mucosally-absorbed pharmaceutical composition is selected from the group consisting of drink, drink mix, food, candy, mouthwash, toothpaste, gargle, vaporizer, gum, lozenge, ingestable gel, ingestable foam, ingestable capsule, tablet, ingestable tablet, ingestable dissolvable tablet, suppository, and ingestable nutritional supplement, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

95. (Previously Presented) The composition of claim 94, wherein the complex carbohydrate is a low purity complex carbohydrate.

96. (Withdrawn - Previously Presented) The method of claim 24, wherein said application is made mucosally.

97. (Withdrawn - Previously Presented) A method for relieving joint pain or other discomforts associated with osteoarthritis in a mammal comprising the step of delivering to said mammal by oral ingestion of a nutritional supplement consisting essentially of an effective amount of hyaluronic acid, or a salt or digest thereof, and a food or drink carrier,

wherein the effective amount of hyaluronic acid, or a salt or digest thereof, is from about 0.0001 mg to 100 mg.

98. (Withdrawn - Previously Presented) The method of claim 97, further comprising the step of adding the hyaluronic acid, or a salt or digest thereof, to the carrier, and wherein the carrier comprises food or water.

99. (Withdrawn - Previously Presented) The method of claim 97, wherein the nutritional supplement is provided in capsule form.

100. (Withdrawn - Previously Presented) The method of claim 97, wherein the mammal is a human, an equine, a canine, or feline species.

101. (Withdrawn - Previously Presented) A method for reducing discomfort of fibromyalgia in a person afflicted with fibromyalgia comprising the step of delivering to said person by oral ingestion a nutritional supplement consisting essentially of an effective amount of hyaluronic acid, or a salt or digest thereof, and a nutritionally acceptable carrier, wherein the effective amount of hyaluronic acid, or a salt or digest thereof, is from about 0.0001 mg to 100 mg per dose.

102. (Withdrawn - Previously Presented) The method of claim 101, further comprising the step of adding the hyaluronic acid, or a salt or digest thereof, to the carrier, and wherein the carrier comprises food or water.

103. (Withdrawn - Previously Presented) The method of claim 101, wherein the nutritional supplement is provided in capsule form.

104. (Withdrawn - Previously Presented) A method for relieving joint pain or other discomforts associated with joint disorders in a mammal comprising the step of delivering to said mammal by oral ingestion a nutritional supplement consisting essentially of an effective amount of hyaluronic acid, or a salt or digest thereof, and a food or drink carrier, wherein the effective amount of hyaluronic acid, or a salt or digest thereof, is from about 0.0001 mg to about 100 mg per dose.

105. (Withdrawn - Previously Presented) The method of claim 102, wherein the nutritional supplement is provided in tablet form.

106. (Withdrawn - Previously Presented) The method of claim 104, further comprising the step of adding the hyaluronic acid, or a salt or digest thereof, to the carrier, and wherein the carrier comprises food or water.

107. (Withdrawn - Previously Presented) The method of claim 104, wherein the nutritional supplement is provided in capsule form.

108. (Withdrawn - Previously Presented) The method of claim 104, wherein the mammal is a human, an equine, a canine, or a feline species.

109. (Withdrawn - Previously Presented) The method of claim 104, wherein the joint pain is the result of an arthritic condition.

110. (Withdrawn - Previously Presented) The method of claim 104, wherein the arthritic condition is selected from the group consisting of osteoarthritis and rheumatoid arthritis.

111. (Withdrawn - Previously Presented) The method of claim 104, wherein the joint pain is the result of an inflammatory condition.

112. (Currently Amended) A nutritional supplement consisting essentially of an nutritionally effective amount of hyaluronic acid, or a salt or digest thereof, and a food or drink carrier, the nutritional supplement provided in an orally ingestible dosage form.

113. (Previously Presented) The nutritional supplement of claim 112, wherein the effective amount of hyaluronic acid is 0.0001 mg to 100 mg.

114. (Previously Presented) The nutritional supplement of claim 112, wherein the orally ingestible dosage form is a capsule or gel seal.

115. (Previously Presented) Food or treat for horse or dog comprising the composition of claim 19.

116. (Withdrawn - Previously Presented) The method of claim 24, wherein said complex carbohydrates are administered in multiple low doses of 0.0001 mg to 100 mg body weight.

117. (Currently Amended) A composition comprising at least one orally digestable or mucosally absorbable complex carbohydrate selected from the group consisting of oligosaccharides, sialylated oligosaccharides, polysaccharides,

and glycosaminoglycans, wherein said complex carbohydrate will cause reactions when injected into monkey eyes or joints of horses but will not cause reactions when applied to the skin of mammals or when delivered orally or mucosally to mammals, and wherein said at least one complex carbohydrate is mixed in a drink, a drink mix, a food, a candy, a mouthwash, a toothpaste, a gargle, a vaporizer liquid, a gum, a lozenge, an ingestable gel, an ingestable foam, an ingestable capsule, an ingestable tablet, a chewable tablet, a dissolvable tablet, and an ingestable nutritional supplement so that they contain at least 0.00005mg of the complex carbohydrate, with the proviso that when chondroitin sulfate is used as the sole glycosoaminoglycan, the carrier is not a capsule or an ingestable tablet.

118. (Previously Presented) The composition of claim 19, wherein said composition is a topical, oral or mucosal composition.